

GRADE 3 6-17-09

Earth & Space Standards

The Water Cycle

MF#	Learning Standard	Ideas for Developing Investigations and Learning Experiences	T1	T2	T3
10	Describe how water on earth cycles in different forms and in different locations, including underground and in the atmosphere.	Draw a diagram of the water cycle. Label evaporation, condensation, and precipitation. Explain what happens during each process.			
11	Give examples of how the cycling of water, both in and out of the atmosphere, has an effect on climate.				

The Earth in the Solar System

MF#	Learning Standard	Ideas for Developing Investigations and Learning Experiences	T1	T2	T3
13	Recognize that the earth is part of a system called the “solar system” that includes the sun (a star), planets, and many moons. The earth is the third planet from the sun in our solar system.	Create a proportional model of the solar system starting on the school playground and extending as far as possible. Demonstrate the size of objects (use a pea for the smallest planet, and different sized balls for other) and the distance between them.			
14	Recognize that the earth revolves around (orbits) the sun in a year’s time and that earth rotates on its axis once approximately every 24 hours. Make connections between the	Observe and discuss changes in length and direction of shadows during the course of a day.			

	rotation of the earth and day/night, and the apparent movement of the sun, moon, and stars across the sky.				
15	Describe the changes that occur in the observable shape of the moon over the course of a month.	Observe the sky every night for 30 days. Record every night the shape of the moon and its relative location across the sky (record the date of the month and the time of observation each time as well).			

Life Science (Biology) Standards

Characteristics of Plants and Animals

MF#	Learning Standard	Ideas for Developing Investigations and Learning Experiences	T1	T2	T3
1	Classify plants and animals according to the physical characteristics that they share.	<ul style="list-style-type: none"> Sort plant and animal pictures based on physical characteristics. Use a dichotomous key to identify plants. 			

Structures and Functions

4	Describe the major stages that characterize the life cycle of the frog and butterfly as they go through metamorphosis.	Using either live organisms or pictures/models, observe the changes in form that occur during the life cycle of a butterfly or frog.			
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Adaptations of Living Things

MF#	Learning Standard	Ideas for Developing Investigations and Learning Experiences	T1	T2	T3
6	Give examples of how inherited characteristics may change over time as	Compare and contrast the physical characteristics of plants or animals from widely			

	adaptations to changes in the environment that enable organisms to survive, e.g., shape of beak or feet, placement of eyes on head, length of neck, shape of teeth, color.	different environments (e.g., desert vs. tropical plants, aquatic vs. terrestrial animals). Explore how each is adapted to its environment.			
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Physical Sciences (Chemistry and Physics) Standards

Magnetic Energy

MF#	Learning Standard	Ideas for Developing Investigations and Learning Experiences	T1	T2	T3
9	Recognize that magnets have poles that repel and attract each other.	Balance ring magnets on a pencil. Note: The shape of a ring magnet obscures the location of its poles.			
10	Identify and classify objects and materials that a magnet will attract and objects and materials that a magnet will not attract.	Test a variety of materials with assorted magnets. Include samples of pure iron, magnetic steel, and non-magnetic metals in the material tested. Mention the two other magnetic metals: pure cobalt and pure nickel. Test a U.S. five-cent coin to answer the question "Is a U.S. nickel coin made of pure nickel?"			

States of Matter

MF#	Learning Standard	Ideas for Developing Investigations and Learning Experiences	T1	T2	T3
2	Compare and contrast solids, liquids, and gases	Design several stations, each of which demonstrates a state			

	based on the basic properties of each of these states of matter.	of matter (e.g., water table balloon and fan table, sand and block table).			
3	Describe how water can be changed from one state to another by adding or taking away heat.	Do simple investigations to observe evaporation, condensation, freezing, and melting. Confirm that water expands upon freezing.			

Technology/Engineering Standards

Materials and Tools

MF#	Learning Standard	Ideas for Developing Investigations and Learning Experiences	T1	T2	T3
1.1	Identify material used to accomplish a design task based on a specific property, e.g., strength, hardness, and flexibility.				
1.2	Identify and explain the appropriate material and tools (e.g., hammer, screwdriver, pliers, tape measure, screws, nails, and other mechanical fasteners) to construct a given prototype safely.				

Engineering Design

MF#	Learning Standard	Ideas for Developing Investigations and Learning Experiences	T1	T2	T3
2.1	Identify a problem that reflects the need for shelter, storage, or convenience.				

2.2	Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists.				
2.3	Identify relevant design features (e.g., size, shape, weight) for building a prototype of a solution to a given problem.				
2.4	Compare natural system with mechanical systems that are designed to serve similar purposes, e.g., a bird's wings as compared to an airplane's wings.				